NASA Scatterometer (NSCAT) Near-Real-rl'inlc, Value Added products for Mcso/Synoptic-Scale Marine Forecasting

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Radar scatterometers make measurements of ocean surface wind speed and direction. The NASA Scatterometer (NSCAT) is scheduled to launch on the Japanese Advanced Earth Observing Satellite (ADEOS) in August 1996. In addition to its applicability to the study of wind forced ocean circulation and global climate change, scatterometer wind data, made available on a sufficiently timely basis, is also of great value in mesoscale and synoptic-scale marine weather forecasting. Scatterometer derived wind data allows very accurate determination of fronts, cyclone center locations, and storm extent. This information can enhance the ability of marine forecasters to evaluate coastal hazards, safely route ocean going vessels, and assess other important wind driven phenomena. The data from NSCAT, with its dual 600 km swath and global coverage, will be of particular significance in remote ocean regions of the Southern Hemisphere where other sources of marine wind data are sparse.

To foster and support the utilization of NSCAT data by the meteorological community, and to evaluate the utility of scatterometer data in operational marine forecasting, the NSCAT project at JPL has initiated a task to process the NSCAT data in near real-time and make the data available to the public over the Internet. The wind data, which will be processed and accessible within 2-4 hours after the measurement is made, will be available in a gridded data file format and in a "value added" image format. The goal of the value added images is to display the wind vectors in a visually informative way. As part of the value added processing, the wind data will be co-located to and displayed with concurrent geosynchronous cloud images.

This presentation will give an overview of the NSCAT Near Real-T 'i me Product effort. Included will be sample images, using recent ERS- 1 scatterometer data, showing how scatterometer winds enhance the forecaster's ability to construct the overall mesoscale and synoptic scene. Cases where the scatterometer data has led to significant improvement in the characterization of meteorological events will be presented.